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1965

STATE DOCUMENTS

JOB COMPLETION REPORT
INVESTIGATIONS PROJECT

State of Montana — Name Wildlife Investigations, District 2

Project No. W-72-R-10 — Title Native Upland Game Bird Surveys and

Job No. B-2 — Investigations

Period Covered July 1, 1964 to June 30, 1965

ABSTRACT:

Mountain grouse brood data were recorded by Forest Service and Department personnel during late July, 1964. The results indicated somewhat better production than in 1963.

Grouse bag checks were made at four check points on the opening day of the hunting season. The hunting success ratio was 132 grouse per 100 hunters--somewhat higher than in 1963.

Production ratios of harvested grouse were 213, 222, and 136 young per 100 adults, respectively, for blue, ruffed and spruce grouse. These ratios represent higher production for blue and ruffed grouse, and approximately the same for spruce grouse, than in 1963.

Nine Merriam turkeys were checked at Miller Creek on the opening day of the turkey season. Hunting pressure and success were approximately the same as in 1963. Questionnaire returns indicated that a total of 17 turkeys was killed in Missoula and Ravalli counties. A release of nine female turkeys was made on the Bitter Root Game Range in late March.

The analysis of five fall-collected turkey crops showed that oats, pine seeds, and grasshoppers were the main food items.

The state-wide game bird questionnaire showed a district-wide harvest of 53,251 upland game birds. The three species of mountain grouse comprised 89 percent of this total.

OBJECTIVES:

To obtain information needed for management concerning distribution, population densities and trends, production, and harvest of native upland game birds.

TECHNIQUES USED:

Mountain grouse brood data were recorded by Forest Service employees and Department personnel during the period July 20 - 31, 1964.

Harvest and production data were obtained from hunter bag checks at checking stations and from wings collected by hunters and mailed to the

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Department.

A checking station was operated at Miller Creek during the first day of a three day turkey hunting season. Data concerning hunter success, and sex, age and weight of harvested birds were obtained.

District-wide upland game bird harvest data were taken from the statewide questionnaire.

Crops were collected from five hunter-killed turkeys and the contents were analyzed.

FINDINGS:

Mountain Grouse

Production:

Observations of 728 mountain grouse were recorded during late July (Table 1). The sample consisted of 371 blue grouse, 178 ruffed grouse, and 154 spruce grouse.

Age ratios (young per 100 adults) were 197 for blue grouse, 207 for ruffed grouse, 267 for spruce grouse, and 212 for all species combined. These ratios indicated somewhat better production for all species than in 1963.

Harvest:

Grouse bag checks were made at four check points on the opening day of the grouse hunting season (September 13) and at one on the third Sunday (Table 2). A sample of 430 hunters on opening day bagged 567 grouse, or 132 grouse per 100 hunters. Hunting success was somewhat higher than in 1963, and approximately the same as in 1962. Hunters spent 3.3 man hours for each bird bagged, approximately the same as in 1962, and less than in 1963.

The Miller Creek check on September 27 indicated a considerable drop in hunting success by the third Sunday of the season. A sample of 66 hunters bagged 33 grouse--50 birds per 100 hunters, and spent 7.2 man hours for each bird.

Check station data indicated that blue grouse comprised a larger proportion of the grouse harvest in 1964 (54 percent) than in 1963 (41 percent), and the proportion of ruffed grouse declined accordingly.

Age Ratios:

Age ratios obtained from harvested birds at the checking stations, and from wings mailed to the Department by hunters are shown in Table 3. Sample sizes were 767 blue grouse, 264 ruffed grouse, and 442 spruce grouse. Age ratios (young per 100 adults) were 213 for blue grouse, 222 for ruffed grouse, and 136 for spruce grouse. For all species combined, there were

187 young per 100 adults. These ratios are indicative of higher production than during the two preceding years, but lower than in 1961.

Merriam Turkeys

Distribution:

New sightings of turkeys were reported five miles west of Stevensville in the Bitter Root Range (10 birds) and Ashby Creek on the north slope of the Garnet Range (2 males). Fewer birds were reported to have wintered on Miller Creek than in prior years.

Transplants:

A release of nine Merriam turkeys, all females, was made on the Bitter Root Game Range March 31, 1965. The birds immediately dispersed. One bird was re-sighted on the game range in May. These birds were trapped and transplanted from the Bull Mountains near Roundup, Montana, and were not banded.

Harvest:

Ten turkeys were known to have been killed in the Miller Creek drainage during the 2½ day season (noon Sept. 27 - Sept. 29). Nine were taken the first day, and one the second day. Nine were examined by project personnel. These consisted of two adult females, four young males, and three young females.

Weights of seven birds are as follows:

Adult females	9½ lbs.
	9 lbs.
Juvenile males	9½ lbs.
	9 lbs.
	8 lbs.
Juvenile females	7 lbs.
	6¼ lbs.

Forty turkey hunters were checked at Miller Creek on the first day of the season, compared to 32 in 1963. Hunting success was 23 percent on opening day in 1964, compared to 25 percent in 1963.

The total turkey harvest for District Two was 17 as shown by returns from the state-wide turkey questionnaire. Eleven were taken in Missoula County, and 6 in Ravalli County. Hunting success was 19 percent in Missoula County, and 43 percent in Ravalli.

The contents of five turkey crops indicated that the main food items were oats, pine seeds and grasshoppers (Table 4).

District Harvest of Upland Birds

Data from the statewide upland bird harvest questionnaire indicated that 53,251 upland game birds were taken by hunters in District Two in 1964, (Table 5). The three species of mountain grouse comprised 89 percent of this total.

Table 1. Summer production data for mountain grouse, 1964

	Blue grouse			Ruffed grouse			Spruce grouse			All species		
County	Ads.	Yg.	Yg. per 100 Ad.	Ads.	Yg.	Yg. per 100 ad.	Ads.	Yg.	Yg. per 100 ad.	Ads.	Yg.	Yg. per 100 ad.
Mineral	3	8	--	9	25	277	4	11	--	17	44	259
Missoula	12	24	200	33	59	179	18	24	133	65	107	165
Ravalli	105	196	187	10	20	200	10	29	290	125	245	196
Granite	2	4	--	2	6	--	1	4	--	5	14	--
Powell	2	11	--	1	4	--	0	0	--	4	21	--
Deer Lodge	1	3	--	2	3	--	3	12	--	6	18	--
Lewis & Clark	1	3	--	2	3	--	6	32	533	11	46	418
Totals (1964)	125	246	197	58	120	207	42	112	267	233	495	212
1963	100	183	183	113	210	186	62	134	209	281	539	188
1962	92	148	161	97	174	179	74	114	154	280	460	164
1961	90	306	340	64	205	320	115	406	353	269	917	340

Table 2. Mountain grouse hunting success, 1964

Station	Date	No. hunters	Man hrs. hunted	Birds bagged	Birds/100 hunters	Man hrs. per bird	Percent Species composition blue	ruffed	spruce
Bonner	9/13/64	77	387	124	161	3.1	54	19	27
Buckhouse bridge	"	140	616	214	153	2.9	47	11	42
Skalkaho	"	134	--	147	110	--	55	31	14
Rock Creek	"	79	364	82	104	4.4	65	15	20
Miller Creek	9/27/64	66	239	33	50	7.2	35	58	7
Total	9/13/64*	430	1367	567	132	3.3	54	20	26
"	9/27/64	66	239	33	50	7.2	35	58	7
"	1963*	361	1154	405	112	4.1	41	36	23
"	1962*	593	2484	765	129	3.2	48	33	19

*Opening day

Table 3. Mountain grouse age ratios from wings collected during the hunting season, 1964

Location	Blue grouse			Ruffed grouse			Spruce grouse			All species		
	Ads.	Yg.	Yg. per 100 ad.	Ads.	Yg.	Yg. per 100 ad.	Ads.	Yg.	Yg. per 100 ad.	Ads.	Yg.	Yg. per 100 ad.
Bonner	16	37	231	3	9	---	18	31	170	37	77	208
Skalkaho	95	185	195	30	69	230	59	81	134	184	335	182
Buckhouse	35	69	197	10	26	260	26	28	108	71	123	173
Rock Creek	17	30	176	4	6	---	7	6	---	28	42	120
Mineral Co.	2	4	---	3	2	---	13	12	92	18	18	100
Missoula Co.	33	94	285	23	48	209	33	42	127	89	184	207
Ravalli Co.	21	53	252	5	6	---	10	27	270	36	86	239
Granite Co.	7	14	200	2	8	---	12	11	92	21	33	157
Powell Co.	17	31	182	2	8	---	9	17	189	28	56	200
Deer Lodge Co.	2	5	---	0	0	---	0	0	---	2	5	---
Total Dist. 2												
1964	245	522	213	82	182	222	187	255	136	514	959	187
1963	167	220	132	119	186	125	86	112	130	402	518	129
1962	197	332	169	163	233	143	148	149	101	508	714	141
1961	147	356	242	127	444	350	94	229	244	368	1029	280

Table 4. Contents of five Merriam turkey crops collected at Miller Creek September 27, 1964

Food item	Volume	Percent
Grass seeds	0.5 c.c.	0.3
Cultivated oats	129.2	68.0
Polygonum spp (seeds	tr.	
Solidago spp	1.9	
Lithospermum (seed pods)	0.1	
Unidentified forbs	0.3	
Total forbs	2.5	1.3
Pinus ponderosa (seeds)	28.4	14.8
Orthoptera	23.4	
Lepidoptera	0.3	
Unidentified pupae	0.1	
Diplopoda	0.1	
Hemiptera	1.0	
Arachnida	0.2	
Coleoptera	0.4	
Total animal	25.5	13.4
Crataegus douglasii (fruit)	1.4	
Symphoricarpos (stems)	0.1	
(fruit)	1.2	
Arctostaphylos (fruit)	1.0	
Total browse	3.7	1.9
Rocks and detritus	0.5	0.1

Table 5. Upland game bird harvest in District Two, 1964, from state-wide questionnaire

Species	State-wide harvest	Percent in Dist. 2	Number in Dist. Two 1964	1963
Pheasant	358,015	1.2	4,298	6,280
Hungarian partridge	163,756	0.8	1,310	1,540
Chukar partridge	4,518	1.1	50	40
Blue grouse	63,402	29.2	18,513	20,176
Ruffed grouse	62,794	26.1	16,389	18,670
Spruce grouse	44,783	28.3	12,674	10,971
Merriam turkey	626	2.7	17	18
Total	697,894	7.6	53,251	57,695

Prepared by Reuel G. Janson

Approved by Wynn G. Freeman

Date July 30, 1965

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STATE DOCUMENTS

JOB COMPLETION REPORT
INVESTIGATIONS PROJECT

State of Montana | Name Wildlife Investigations, District 2

Project No. W-72-R-11 | Title Native Upland Game Bird Surveys and

Job No. B-2 | Investigations

Period Covered July 1, 1965 - June 30, 1966

ABSTRACT:

Mountain Grouse brood data were recorded by personnel of the Fish and Game Department and cooperating agencies during the period July 19-30, 1965. The results indicated somewhat lower production than in 1964.

Grouse bag checks were made at 5 check points on the opening day of the hunting season. The hunting success ratio was 103 grouse per 100 hunters, compared to 132 grouse per 100 hunters in 1964.

Production ratios of harvested grouse were 124, 153, and 144 young per 100 adults, respectively for blue, ruffed and spruce grouse. These ratios indicate that the production of blue and ruffed grouse was lower than in 1964, while spruce grouse production remained about the same.

A total of 9 Merriam turkeys was killed by 85 hunters for a success ratio of 11 percent.

OBJECTIVES:

To obtain information needed for management concerning distribution, population densities and trends, production and harvest of native upland game birds.

TECHNIQUES USED:

Mountain grouse brood data were recorded by personnel of the Fish and Game Department, U.S. Forest Service, B.L.M., and Blackfoot Forest Protective Association during July 19-30, 1965.

Harvest and production data were obtained from hunter bag checks at checking stations and from wings collected by hunters and mailed to the Department.

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FINDINGS:

Mountain Grouse

Production:

Observations totalling 633 mountain grouse were recorded during late July (Table 1). The sample consisted of 327 blue grouse, 149 ruffed grouse, and 157 spruce grouse.

Age ratios (young per 100 adults) were 187 for blue grouse, 181 for ruffed grouse, 171 for spruce grouse, and 179 for all species combined. These ratios represent somewhat lower production for all species than in 1964.

Harvest:

The 1965 mountain grouse hunting season was open during the period September 12 - November 28. The daily bag limit was 5 grouse in any combination of the three species, or of a single species. The possession limit was 10.

Grouse bag checks were made at five check points on the opening day of the grouse hunting season (Table 2). A sample of 385 hunters bagged 395 grouse, or 103 grouse per 100 hunters. Hunting success was lower than in 1964 when hunters bagged 132 grouse per 100 hunters. Wet, cold and foggy weather on opening day probably reduced hunting pressure, and hunting success. Hunters spent 4.8 man hours for each bird bagged, compared to 3.3 in 1964.

Blue grouse comprised 45 percent of the harvest; ruffed grouse, 40 percent; and Franklin grouse, 15 percent.

Age Ratios:

Age ratios obtained from harvested birds at the checking stations are shown in Table 3. Production ratios of harvested grouse were 124 young per 100 adults for blue grouse, 153 for ruffed grouse and 144 for spruce grouse. These ratios indicate that the production of blue and ruffed grouse was lower than in 1964, while the production of spruce grouse remained about the same. Although many wings were sent in by hunters, the resulting data were still not available from the data processing division and are omitted from this report.

Merriam Turkeys

Distribution:

New sightings of turkeys were reported. These were at the Cyr Ranch at the mouth of Fish Creek, Nemote Creek, and Meadow Creek-Verde Creek, all near Tarkio. Turkey tracks were observed by the writer in the snow at Nemote Creek. These birds are believed to have originated partly from the Plains release and partly from a release of four hens east of Superior in 1964. Additional reports

were received from the Bitter Root where a scattered population of turkeys seems to be established.

Harvest:

Turkey harvest data were obtained by means of a statewide questionnaire (Table 4). A total of 85 turkey hunters in District Two killed 9 turkeys, for a hunting success of 11 percent. No turkey checking stations were operated in 1965.

Prepared by: Reuel G. Janson Approved by: Wynn Freeman

Date: January 17, 1967

Table 1. Mountain grouse production data from cooperative summer survey

County	Blue Grouse			Ruffed Grouse			Franklin Grouse			All species		
	Ad.	Yg.	Yg. per 100 ad.	Ad.	Yg.	Yg. per 100 ad.	Ad.	Yg.	Yg. per 100 ad.	Ad.	Yg.	Yg. per 100 ad.
Mineral	13	13	100	10	14	140	6	10	--	29	37	128
Missoula	5	0	--	18	38	211	13	19	146	36	57	158
Ravalli	59	137	232	10	13	130	10	24	240	79	174	220
Granite	15	20	133	9	19	211	18	17	94	43	56	130
Powell	20	39	195	5	12	--	10	22	220	37	73	197
Deer Lodge	--	--	--	--	--	--	--	--	--	--	--	--
Lewis & Clark	2	4	--	1	0	--	1	7	--	4	11	--
Totals-												
1965	114	213	187	53	96	181	58	99	171	228	408	179
1964	125	246	197	58	120	207	42	112	267	238	495	212
1963	100	183	183	113	210	186	62	134	209	281	539	188

Table 2. Mountain grouse hunting success, opening day

Station	No. hunters	Man hrs. hunted	Birds bagged	Birds/100 hunters	Man hrs. per bird	Species Composition					
						blue		ruffed		spruce	
						No.	%	No.	%	No.	%
Bonner	56	302	72	129	4.2	40	56	16	23	15	21
Buckhouse Br.	132	714	144	109	5.0	71	49	64	44	9	6
Hamilton	97	-	88	91	-	39	44	41	47	8	9
West Fork B.R.	54	-	61	-	-	19	31	22	36	20	33
Lower Rock Cr.	46	176	30	75	5.9	8	29	14	50	6	21
Total											
1965	385	-	395	103	4.8	177	45	157	40	58	15
1964	430	1367	567	132	3.3	-	54	-	20	-	26

Table 3. Mountain Grouse age ratios from wings collected during the hunting season, 1965

Location	Blue grouse			Ruffed grouse			Spruce grouse			All species		
	Ads.	Yg.	Yg. per 100 ad.	Ads.	Yg.	Yg. per 100 ad.	Ads.	Yg.	Yg. per 100 ad.	Ads.	Yg.	Yg. per 100 ad.
Buckhouse	32	36	113	17	30	176	8	8	100	57	74	130
Bonner	17	20	118	1	10	-	6	12	200	24	42	175
Rock Cr.	2	1	-	5	2	-	2	3	-	9	6	67
Upper Bitter Root	15	25	166	24	30	125	16	23	144	55	78	142
Mineral Co.	Data not available from data processing section											
Missoula Co.	"	"	"	"	"	"		"				
Granite Co.	"	"	"	"	"	"		"				
Powell Co.	"	"	"	"	"	"		"				
Deer Lodge Co.	"	"	"	"	"	"		"				
L & C. Co.	"	"	"	"	"	"		"				
Total Dist. 2												
1965	66	82	124	47	72	153	32	46	144	145	200	138
1964	245	522	213	82	182	222	187	255	136	514	959	187
1963	167	220	132	149	186	125	86	112	130	402	518	129

Table 4. Turkey harvest from questionnaire data, 1965

County hunted	No. hunters	Turkeys killed	Percent success	Ave. no. days hunted
Missoula	47	3	6	2.4
Ravalli	38	6	16	2.0
Total Dist. 2	85	9	11	2.2

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STATE DOCUMENTS
Department of Zoology

JOB COMPLETION REPORT
RESEARCH PROJECT SEGMENT

State of Montana | Name Wildlife Investigations, District 2

Project No. W-72-R-12 | Title Native Upland Game Bird Survey and Investigations

Job No. B-2

Period Covered: July 1, 1966 to June 30,1967

Abstract:

Mountain grouse brood data were recorded by personnel of the Fish and Game Department and cooperating agencies during the period July 18-31,1966. The results indicated relatively low production of young during the summer of 1966.

Grouse bag checks were made at six check points on the opening day of the hunting season. The hunting success ratio was 113 grouse per 100 hunters, compared to 103 grouse per 100 hunters in 1965.

Age ratios determined from grouse wings collected at checking stations, or mailed in by hunters, were 170 young per 100 adult for blue grouse, 171 for ruffed grouse, and 142 for spruce (Franklin) grouse. These ratios indicate somewhat better production for blue grouse and ruffed grouse, and about the same for Franklin grouse, in 1966 than in 1965.

Reports of Merriam turkeys in new areas were received during the year, and further reports from the vicinity of Tarkio suggest a good resident breeding population in that area.

The 1966 game bird harvest questionnaire showed a district-wide harvest of 51,139 upland game birds. The three species of mountain grouse comprised 91 percent of this total. Four Merriam turkeys were harvested.

Objectives:

To obtain information needed for management concerning distribution, population densities and trends, production and harvest of native upland game birds.

Techniques Used:

Mountain grouse brood data were recorded by personnel of the Fish and Game Department, U.S. Forest Service, U.S. Bureau of Land Management and Blackfoot Forest Protective Association during the period July 18-31,1966.

Harvest and production data were obtained from hunter bag checks at checking stations and from wings collected by hunters and mailed to the Department.

District Two upland game bird harvest data were taken from the state-wide questionnaire.

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Findings:

Mountain Grouse

Production:

Observations of 475 mountain grouse were recorded during the cooperative production survey (Table 1). The sample consisted of 200 blue grouse, 141 ruffed grouse, and 134 spruce grouse.

Age ratios (young per 100 adults) were 147 for blue grouse, 124 for ruffed grouse, 153 for spruce grouse and 141 for all species combined. These ratios indicate poorer production for all three species in 1966 than during the two previous years. However, production was apparently not as poor as these ratios indicate, since the results of the subsequent fall bag checks suggest somewhat better production.

Harvest:

Grouse bag checks were made at six check points on the opening day of the season (Sept. 11). A sample of 285 hunters bagged 321 grouse, or 113 birds per 100 hunters. An average of 4.2 man-hours was spent for each bird bagged. These figures represent slightly better hunting than in 1965, when hunters averaged 103 birds per 100 hunters and spent 4.8 man-hours for each bird. Species composition of the checked harvest was 53 percent blue grouse, 30 percent ruffed grouse, and 17 percent spruce (Franklin) grouse.

Age Ratios:

Age ratios obtained from hunters bags at checking stations, and from wings mailed to the Department by hunters, are shown in Table 3. Sample sizes were 300 blue grouse, 203 ruffed grouse, 162 spruce grouse, and 695 of all species combined. Age ratios (young per 100 adults) were 170 for blue grouse, 171 for ruffed grouse, 142 for spruce grouse, and 163 for all species combined. These ratios indicate somewhat higher production for blue and ruffed grouse than in 1965, while the production of spruce grouse remained about the same.

Merriam Turkeys

Wild Merriam turkeys were reported from a location 12 miles west of Lolo on Lolo Creek. This is the farthest west on Lolo Creek that turkeys have been known to occur. Turkeys were also reported from Petty Creek on and near the Longpre Ranch. This is the first known occurrence of turkeys on Petty Creek.

Several reports from the Tarkio area indicate a good breeding population of Merriam turkeys along the Clark Fork and lower tributaties between the mouth of Fish Creek and Lozeau. A group of seven turkeys was also reported in the Keystone area.

District Harvest of Upland Birds

Data from the statewide upland game bird harvest questionnaire showed that 51,139 upland game birds were taken by hunters in District Two in 1966 (Table 4). The three species of mountain grouse comprised 91 percent of the district-wide harvest. A total of four turkeys was taken by 32 hunters for a hunting success of 12 percent. Two turkey were taken in Missoula County and two in Ravalli County.

Table 1. Mountain grouse production from cooperative summer survey, 1966

	Blue grouse			Ruffed grouse			Franklin grouse					
County	Ad.	Yg.	Yg.per 100 ad.	Ad.	Yg.	Yg.per 100 ad.	Ad.	Yg.	Yg.per 100 ad.	Ad.	Yg.	Yg.per 100 ad.
Mineral	10	23	230	15	26	173	7	17	243	32	66	206
Missoula	22	33	150	13	19	146	9	13	144	46	65	141
Ravalli	24	34	142	25	25	100	20	27	135	35	45	121
Granite	12	12	100	8	8	100	12	16	133	32	36	113
Powell	10	6	60	2	0	-	5	8	160	18	14	78
Deer Lodge	1	0	-	2	3	-	1	0	-	4	3	-
L & C	3	11	367	-	-	-	-	-	-	3	11	367
Totals												
1966	81	119	147	63	78	124	53	81	153	165	233	141
1965	114	213	187	53	96	181	58	99	171	228	408	179
1964	125	246	197	58	120	207	42	112	267	238	495	212

Table 2. Mountain grouse hunting success, opening day, 1966

						Species composition					
						Blue		Ruffed		Spruce	
Station	No. hunters	Man hrs hunted	Birds bagged	Birds/100 hunters	Man hrs. per bird	No.	%	No.	%	No.	%
Bonner	44	225	69	157	3.3	31	45	20	29	18	26
So. Missoula	72	461	39	54	11.8	17	44	12	31	10	25
So. Hamilton	52	170	50	96	3.4	35	70	12	24	3	6
Darby	57	288	98	172	2.9	62	63	19	20	17	17
Rock Creek	24	91	28	117	5.3	19	73	3	12	4	15
Belmont-Gold Cr.	36	125	37	103	3.4	5	14	30	81	2	5
Total,1966	285	1360	321	113	4.2	169	53	96	30	54	17
Total,1965	385	-	395	103	4.8	177	45	157	40	58	15
Total,1964	430	1367	567	132	3.3	-	54	-	20	-	26

Table 3. Mountain grouse age ratios from wings collected during the hunting season, 1966, and comparison with prior years.

Location	Blue grouse			Ruffed grouse			Spruce grouse			All species		
	Ads.	Yg.	Yg.per 100 Ad.	Ads.	Yg.	Yg.per 100 Ad.	Ads	Yg.	Yg.per 100 Ad.	Ads.	Yg.	Yg.per 100 Ad.
Bonner	11	18	164	4	8	-	7	13	186	22	39	177
Missoula,So.*	8	12	150	3	5	-	4	6	-	15	23	153
Darby* & Skalkaho*	36	51	165	13	18	138	11	9	82	60	78	130
Rock Creek*	9	6	-	2	0	-	3	1	-	14	7	-
Deer Lodge Co.	2	4	-	0	0	-	0	0	-	2	4	-
Granite Co.	9	22	244	10	9	-	14	14	100	33	45	136
Lewis & Clark	3	7	-	0	0	--	0	4	-	3	11	-
Mineral	1	0	-	9	14	156	0	1	-	10	15	150
Missoula	26	52	200	29	62	214	19	36	189	74	150	203
Powell	8	28	350	1	5	-	6	9	-	15	42	280
Ravalli	9	8	-	4	7	-	3	2	-	16	17	106
Total-1966	122	208	170	75	128	171	67	95	142	264	431	163
Total-1965**	66	82	124	47	72	153	32	46	144	145	200	138
Total-1964	245	522	213	82	182	222	187	255	136	514	959	187
Total-1963	167	220	132	149	186	125	86	112	130	402	518	129
Total-1962	197	332	169	163	233	143	148	149	101	508	714	141
Total-1961	147	356	242	127	444	350	94	229	244	368	1029	280
Total Period	944	1720	182	643	1245	194	614	886	144	2201	3851	175

* Checking stations, opening day (Sept. 11)
** Opening day checking station data only

Table 4. Upland game bird harvest from state-wide questionnaire, 1966

Species	Statewide harvest	Percent in District 2	Number in District 2
Pheasant	221,130	1.4	3095
Hun. Partridge	123,530	1.2	1470
Chukar Partridge	3995	1.0	40
Blue grouse	63,695	29.0	18465
Ruffed grouse	54,285	29.6	16045
Spruce grouse	36,265	33.1	12020
Merriam turkey	618	0.7	4
Totals	503,518	10.2	51,139

Prepared by: Reuel G. Janson Date July 25,1967

Approved by: Wynn Freeman

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STATE DOCUMENTS

JOB COMPLETION REPORT
RESEARCH PROJECT SEGMENT

State of Montana
Project No. W-72-R-13
Job No. B-2
Period Covered July 1, 1967 to June 30, 1968

Name Wildlife Investigations, District Two
Title Native Upland Game Bird Survey and Investigations

ABSTRACT:

Mountain grouse brood data were recorded by Department and cooperating personnel during the latter half of July, 1967. The results indicated better production than in 1966.

Grouse bag checks were made at three check points during the opening week end of the hunting season. Hunting success was better than in 1966.

Age ratios determined from grouse wings obtained at checking stations, or mailed in by hunters, showed 280 young per 100 adults. This indicates the best production since 1961.

Reports indicate that scattered small groups of Merriam turkeys persist in the foothills of the Bitterroot Valley and in the Clark Fork Valley between Tarkio and St. Regis. A group of 28 was observed near Nemote Creek during the summer.

Questionnaire returns indicated a district-wide harvest of 47,314 upland game birds. The three species of mountain grouse comprised 94 percent of this total. Six turkeys were harvested, all in Mineral County.

OBJECTIVES:

To obtain information needed for management concerning distribution, population densities, production and harvest of native upland game birds.

TECHNIQUES USED:

Mountain grouse broods were recorded by personnel of the Fish and Game Department and the U. S. Forest Service during the period July 17-31, 1967.

Harvest and production data were obtained from hunter bag checks at checking stations, and from wings collected by hunters and mailed to the Department.

District Two upland game bird harvest data were taken from the statewide questionnaire.

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FINDINGS:

Mountain Grouse

Production:

Observations of 627 mountain grouse were recorded during the cooperative production survey (Table 1). The sample consisted of 180 blue grouse, 238 ruffed grouse, and 209 Franklin grouse.

Age ratios (young per 100 adults) were 161 for blue grouse, 245 for ruffed grouse, and 302 for Franklin grouse. For all species combined the age ratio was 228 young per 100 adults. These ratios indicate better production of all three species in 1967 than in 1966.

Harvest:

Grouse bag checks were made at three check points on the first week-end of general hunting (Sept. 16 and 17). The season actually opened Sept. 10, but closure of forests because of extreme fire danger delayed hunting until the following week-end. A sample of 159 hunters bagged 229 grouse, or 144 grouse per 100 hunters. An average of 3.02 man-hours of hunting was spent for each bird bagged. (Table 2).

These figures represent better hunting than in 1966, when hunters averaged 113 birds per 100 hunters and 4.2 man-hours for each bird bagged. The species composition of the checked harvest was 56 percent blue grouse, 25 percent ruffed, 18 percent Franklin, and one percent unclassified.

Age Ratios:

Age ratios obtained at checking stations, and from wings mailed to the Department by hunters, are shown in Table 3. Sample sizes were 514 blue grouse, 424 ruffed grouse, and 291 Franklin grouse. Age ratios (young per 100 adults) were 265 for blue grouse, 387 for ruffed grouse, 206 for Franklin grouse, and 280 for all species combined. This represents the best production since 1961, when the age ratio for all species combined was also 280 young per 100 adults. Good production in 1961 and 1967 was associated with abnormally dry summers which followed mild winters.

Merriam Turkeys

Reports of scattered small groups of turkeys continued to be received from foothill locations on both sides of the Bitterroot Valley, and from the Clark Fork Valley between Tarkio and St. Regis. In August, 1967, the writer observed 28 turkeys chasing grasshoppers in a pasture along the Nemote Creek road just north of Round Mountain. This group consisted of 7 hens and 21 young. A report of sick turkeys in this area was received in September. A search of the area and interviews with neighboring ranchers failed to substantiate this report.

Mineral County was opened to turkey hunting for the first time in the fall of 1967. However most private land was posted and few turkeys were killed. Questionnaire returns indicate a harvest of six turkeys in District

Two. All six were reported killed in Mineral County. The total number of hunters afield was 55. Their success ratio for the six birds bagged was 11.4 percent. The 1967 turkey season ran from noon, Sept. 23 through Oct. 1 in Mineral, Missoula and Ravalli counties.

District Harvest of Upland Birds

Returns from the statewide upland game bird harvest questionnaire indicated that 47,314 upland game birds were taken by hunters in District Two in 1967 (Table 4). The three species of mountain grouse comprised 94 percent of the district-wide upland game bird harvest. Ruffed grouse was the most important species from the standpoint of number taken (16,932), followed closely by blue grouse (16,364).

Table 1. Mountain grouse production from cooperative summer survey, 1967

	Blue grouse			Ruffed grouse			Franklin			Total		
County	Ads.	Yg.	Ratio*	Ads.	Yg.	Ratio*	Ads.	Yg.	Ratio*	Ads.	Yg.	Ratio*
Mineral	6	14	233	41	103	251	7	6	86	54	123	228
Missoula	12	38	316	10	28	280	6	17	283	28	83	296
Ravalli	7	6	86	2	9	450	5	10	200	14	25	179
Granite	4	10	40	8	17	212	6	22	37	18	49	272
Powell	37	39	95	7	4	57	16	51	319	60	94	157
Lewis & Clark	4	3	133	1	8	800	12	51	425	17	62	365
Total	70	110	161	69	169	245	52	157	302	191	436	228

*Young per 100 adults

Table 2. Mountain grouse hunting success, opening week-end 1967*

Station	No. hunters	Man hrs. hunted	Birds bagged	Birds/100 hunters	Man hrs. /bird	Species Composition: Blue No.	Blue %	Ruffed No.	Ruffed %	Franklin No.	Franklin %
Bonner	29	119	61	210	1.95	27	44	17	28	17	28
Missoula	72	336	108	150	3.11	62	57	34	31	12	11
Skalkaho	58	237	60	100	1.03	39	65	7	12	12	20
Total	159	692	229	144	3.02	128	56	58	25	41	18

*Opening date was Sept. 10, but forests were closed to travel because of fire danger until the following week-end.

Table 3. Mountain grouse age ratios from wings collected during the hunting season, 1967

Location	Blue grouse			Ruffed grouse			Franklin			All species		
	Ads.	Yg.	Yg.per 100 ad.	Ads.	Yg.	Yg.per 100 ad.	Ads.	Yg.	Yg.per 100 ad.	Ads.	Yg.	Yg.per 100 ad.
Bonner*	3	20	667	1	9	900	3	7	233	7	36	514
Missoula*	18	42	233	7	25	357	9	3	33	34	70	206
Skalkaho*	30	29	97	4	3	75	4	6	150	38	38	100
Mineral Co.	3	18	60	23	94	409	6	26	433	32	138	431
Missoula Co.	43	123	286	36	162	450	33	72	218	112	357	319
Ravalli Co.	21	88	419	10	31	310	18	36	200	49	155	316
Granite Co.	10	22	220	4	9	225	12	15	125	26	46	177
Powell Co.	12	31	258	2	4	200	8	27	337	22	62	282
Deer Lodge Co.	1	0	0	0	0	0	2	4	200	3	4	133
Total	141	373	265	87	337	387	95	196	206	323	906	280

*Checking stations operated opening week-end

Table 4. District Two upland game bird harvest from state-wide questionnaire, 1967

Species	State harvest	Percent in District Two	Number in District Two
Pheasant	97,108	2.08	2,018
Hungarian partridge	70,622	1.10	778
Chukar partridge	2,404	0.49	12
Blue grouse	50,971	32.11	16,364
Ruffed grouse	67,465	25.10	16,932
Spruce grouse	35,548	31.52	11,204
Merriam turkey	298	2.01	6
Total	324,416	14.58	47,314

Prepared by: Reuel G. Janson Date March 16, 1969

Approved by: Wynn G. Freeman